

Notice of Allowability

Application No.

10/784,660

Examiner

Stephen A. Holzen

Applicant(s)

CORCORAN, JAMES JOHN

Art Unit

3644

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to applicant's response mailed on 12/20/2004.
2. ☒ The allowed claim(s) is/are 1 and 2.
3. ☒ The drawings filed on 21 February 2004 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in applicant's response to the Quayle action. The response was received on 12/20/2004.

The application has been amended as follows:

--*Claim 1: A totally integrated system for automatic formation of flight control for vehicles, said system comprising:*

an automatic flight control system having a processor located on the vehicle to enable communications and control of any number of aircraft in a formation,

a communications transceiver located on the vehicle that provides discrete communication links to the number of aircraft in formation,

an aircraft communications bus protocol and message packet structure that provides an exchange of information between the number of aircraft in formation,

a means for encrypting communications exchange between any number of aircraft in formation,

a means for providing a computed formation zone that provides elemental positional information for the number of aircraft in formation;

a means for selecting both formation flight pattern and spatial clearance between the number of aircraft in formation flight,

a means for providing real-time display of aircraft and positions of the number of aircraft in formation,

a means for providing a buffer zone with a relative formation point for any number of aircraft in formation,

a means for polling the number of aircraft in formation for positional information,

a means for providing flight guidance including an autopilot inputs to the number of aircraft in formation;

a means for providing a dampening of the flight profile to the number of aircraft in formation, and

an autopilot located on the vehicle, capable of receiving and transmitting inputs or outputs from the vehicle communications bus.

Claim 2. A process for automatic formation flight control of vehicles comprising a flight control system with processor located on the vehicle, said processor enables communications and controls to any number of aircraft in formation flight and calculates the formation zone (FZ) and (RFP) relative formation point and initiate exchange of similar information between multiple vehicles in order to prevent mid-air collision of multiple vehicles under AFFCS control, a communications transceiver located on

the vehicle that provides discrete communication links to any number of aircraft in formation flight, a aircraft communications bus protocols and message packet structure that provides exchange of information from any number of aircraft in formation,

encrypting a communications exchange between any number of aircraft in formation flight',

providing a computed formation zone (FZ) that provides the speed (IAS), position, and altitude

selecting both formation flight pattern and spatial clearance between any number of aircraft in formation flight;

providing real-time display of the positions of any number of aircraft in formation flight;

providing a buffer zone with a relative formation point (RFP) for each aircraft in formation flight;

polling all aircraft in formation flight for positional information,

providing flight guidance including autopilot inputs to any number of aircraft in formation,

providing a dampening of the flight profile to any number of aircraft in formation.—

2. Claims 1 and 2 are allowed.
3. The following is an examiner's statement of reasons for allowance:

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Re – Claim 1: the prior art does not disclose an aircraft communications bus protocol and message packet structure that provides an exchange of information between the number of aircraft in formation, a means for encrypting communications exchange between any number of aircraft in formation, a means for providing a computed formation zone that provides elemental positional information for the number of aircraft in formation; a means for selecting both formation flight pattern and spatial clearance between the number of aircraft in formation flight in combination.

Re – Claim 2: The prior does not disclose *encrypting a communications exchange between any number of aircraft in formation flight', providing a computed formation zone (FZ) that provides the speed (IAS), position, and altitude selecting both formation flight pattern and spatial clearance between any number of aircraft in formation flight; in combination.*

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen A. Holzen whose telephone number is 703-308-2484. The examiner can normally be reached on M-F 7:30 - 5:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Teri Luu can be reached on 703 305-7421. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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A handwritten signature in black ink, appearing to read 'Teri Luu', with a stylized flourish at the end.

TERI PHAM LUU
SUPERVISORY
PRIMARY EXAMINER